



HARD1.015A

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Donald J. Merkley *et al.*  
Appl. No. : 09/970,389  
Filed : October 2, 2001  
For : METHOD AND APPARATUS  
FOR REDUCING IMPURITIES IN  
CELLULOSE FIBERS FOR  
MANUFACTURE OF FIBER  
REINFORCED CEMENT  
COMPOSITE MATERIALS  
Examiner : Marc S. Alvo  
Group Art Unit : 1731  
Confirmation No. : 9683

DECLARATION UNDER 37 C.F.R. 1.131

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

We, Donald J. Merkley and Caidian Luo, do hereby declare:

1. We are joint inventors of the above patent application, filed October 2, 2001.
2. U.S. Patent No. 6,030,447 (Naji *et al.*) forms a part of a rejection of claims 25-48 of the above application under 35 U.S.C. § 103(a). The rejection was made in a non-final Office Action mailed on March 1, 2005.
3. Naji *et al.* issued, and was first published, on February 29, 2000 from Application No. 08/910,466, filed July 25, 1997, which is a continuation of Application No. 08/545,527, filed October 19, 1995.
4. The facts described herein and the supporting documents filed herewith show reduction to practice and/or conception coupled with diligence prior to February 29, 2000 of the subject-matter described in claims 25-48.

Appl. No. : 09/970,389  
Response filed on July 1, 2005  
Responsive to an Office Action mailed March 1, 2005

5. EXHIBIT A is a monthly report by one of the inventors that includes descriptions of experiments concerning the subject-matter of claims 25-48. The monthly report is dated before February 29, 2000.

6. EXHIBIT B is a series of electronic mail messages between the inventors discussing experiments concerning the subject matter of claims 25-48. The electronic mail messages are dated before February 29, 2000.

7. The foregoing exhibits demonstrate reduction to practice and/or conception coupled with diligence for the subject matter of claims 25-48.

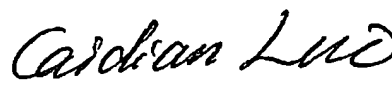
8. The work leading to the subject matter of claims 25-48 was conducted in the United States of America.

9. We declare that all statements made herein of our knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful, false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application and any patent issued thereon.

Dated: July 1, 2005

By:   
Donald J. Merkley

Dated: July 1, 2005

By:   
Caidian Luo

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Application No.: Unknown  
Filing Date: Herewith

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Client Code: HARD1.015A  
Page 1

ASSIGNMENT

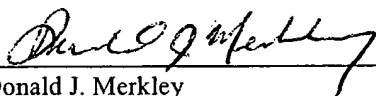
WHEREAS, We, Donald J. Merkley, a United States citizen, residing at 5054 Klusman Avenue, Alta Loma, California 91737 and Caidian Luo, Chinese citizen, 10180 Northridge Drive, Alta Loma, California 91737, have invented certain new and useful improvements in a METHOD AND APPARATUS FOR REDUCING IMPURITIES IN CELLULOSE FIBERS FOR MANUFACTURE OF FIBER REINFORCED CEMENT COMPOSITE MATERIALS for which we have executed an application for Letters Patent in the United States, on even date herewith;

AND WHEREAS, James Hardie Research Pty Limited (hereinafter "ASSIGNEE"), an Australian Corporation, with its principal place of business at Level 1, Research and Product Development Building, 10 Colquhoun Street, Rosehill, NSW 2142, Australia, desires to acquire the entire right, title, and interest in and to the said improvements and the said Application:

NOW, THEREFORE, in consideration of the sum of One Dollar (\$1.00) to me in hand paid, and other good and valuable consideration, the receipt of which is hereby acknowledged, we, the said inventors, do hereby acknowledge that we have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over, unto the said ASSIGNEE, his successors, legal representatives and assigns, the entire right, title, and interest throughout the world in, to and under the said improvements, and the said application and all provisional applications relating thereto, and all divisions, renewals and continuations thereof, and all Letters Patent of the United States which may be granted thereon and all reissues and extensions thereof, and all rights of priority under International Conventions and applications for Letters Patent which may hereafter be filed for said improvements in any country or countries foreign to the United States, and all Letters Patent which may be granted for said improvements in any country or countries foreign to the United States and all extensions, renewals and reissues thereof; and we hereby authorize and request the Commissioner of Patents of the United States, and any Official of any country or countries foreign to the United States, whose duty it is to issue patents on applications as aforesaid, to issue all Letters Patent for said improvements to the said ASSIGNEE, his successors, legal representatives and assigns, in accordance with the terms of this instrument.

AND WE HEREBY covenant and agree that we will communicate to the said ASSIGNEE, his successors, legal representatives and assigns, any facts known to us respecting said improvements, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuing and reissue applications, make all rightful oaths and generally do everything possible to aid the said ASSIGNEE, his successors, legal representatives and assigns, to obtain and enforce proper patent protection for said improvements in all countries.

IN TESTIMONY WHEREOF, I hereunto set my hand and seal this 25 day of Sept, 2001.

  
Donald J. Merkley

STATE OF  
CALIFORNIA  
COUNTY OF  
SAN BERNARDINO

ss.

On 25 SEPT 2001, before me, VINCENT L CIRRILO, personally appeared Donald J. Merkley personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument, and acknowledged to me that he executed the same in his authorized capacity(ies), and that by his signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

[SEAL]

Vincent L. Cirrito  
Notary Signature

IN TESTIMONY WHEREOF, I hereunto set my hand and seal this 25 day of September, 2001.

Caidian Luo  
Caidian Luo

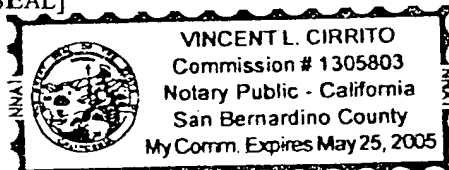
STATE OF  
~~CALIFORNIA~~  
COUNTY OF  
~~SAN BERNARDINO~~

ss.

On 25 SEPT 2001, before me, VINCENT L CIRRITO, personally appeared Caidian Luo personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument, and acknowledged to me that he executed the same in his authorized capacity(ies), and that by his signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

[SEAL]



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091901

Vincent L. Cirrito  
Notary Signature



**James Hardie  
Building Products**

## Internal Memorandum

James Hardie  
Industries (USA) Inc.

10901 Elm Avenue  
Fontana, California 92337

Telephone 1-909-356-6300

1-800-426-4051

Fax 1-909-427-0634

**TO:** Don Merkley

**FROM:** Caidian Luo

**DATE:** [REDACTED]

**RE:** Monthly Report for [REDACTED]

**CC:** Jay Lee, Rick Morales, and Jeannette Pacific

The jobs that I, with help from Jay Lee and Rick Morales, have accomplished in the month of [REDACTED] include but are not limited to:

**A.** [REDACTED]

- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

**B. For COD Experiment**

- Designed an experimental plan to test the effect of hot water extractable COD on F-C products
- Extracted both LP and Tas [REDACTED] pulp using hot water at 4% consistency, determined the COD in the extracts (results indicate that about 80 mg/L of COD was obtained in the hot water extracts)
- Made 12 sets of F-C pads using COD and tap water, and tested the physical properties of the pads (results show extractable COD has more negative effect on F-C board properties, and different pulps respond to COD water differently)
- Coordinated experiments of chemical analyses, extraction by hot water and sodium hydroxide, and pulp refining in tap water, [REDACTED]
- [REDACTED]
- Designed an experimental plan for further test of the effect of COD released during refining upon fiber-cement properties, if necessary

Caidian Luo

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From: Don Merkley

Sent: [REDACTED]

To: Caidian Luo

Subject: RE: Hot Water Trial at [REDACTED]

How much of this material are we making? Did increasing the residence time mean that we had to make more?

—Original Message—

From: Caidian Luo

Sent: [REDACTED]

To: Don Merkley

Subject: Hot Water Trial at [REDACTED]

Dear Don:

We started the hot water washing trial from 1 o'clock today and will finish it by tomorrow. We increased the washing temp from 150 to 180F, and added three more washers in the washing system. Therefore, the residence time for washing increases from 6 hours to 12 hours. Hopefully this will remove most of "COD" substances from pulp.

It seems to me that LP people are willing to do this trial and to improve their pulp quality. We all are excited about the possible success of this trial. Vidas is here and he facilitated my work a lot.

If you have any instructions, please let me know. I will call you tomorrow afternoon as soon as I get some preliminary results on fiber properties. I really enjoy the opportunity you presented to me. I thank you so much for your full support so that I can put my research ideas into operations. I hope the results of this and other trials will significantly benefit James Hardie.

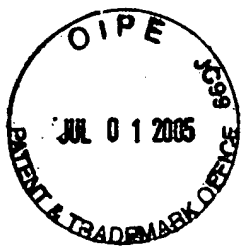
Thanks.

Caidian

7-5-05

# Knobbe Martens Olson & Bear LLP

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## CERTIFICATE OF MAILING BY "EXPRESS MAIL"

**Attorney Docket No.** : HARD1.015A

**Applicants** : Donald J. Merkley et al.

**For** : METHOD AND APPARATUS FOR  
REDUCING IMPURITIES IN CELLULOSE  
FIBERS FOR MANUFACTURE OF FIBER  
REINFORCED CEMENT COMPOSITE  
MATERIALS

**Attorney** : Pui Tong Ho


**"Express Mail" Label No.** : EV 307 967 318 US

**Date of Deposit** : July 1, 2005

I hereby certify that the accompanying

Transmittal letter; Amendment in 7 pages with Exhibit 1; Declaration in 2 pages  
with Exhibits A and B; Check for Filing Fee; Return Prepaid Postcard

are being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and are addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

  
Nelson Merida

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070105

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